Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

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Nuclear disarmament verification

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Summary

1. The European Union and its member States have significant experience that can be instrumental to effectively advancing the disarmament verification agenda. The European Union and its member States are committed to pursuing nuclear disarmament in accordance with article VI of the Treaty on the Non-Proliferation of Nuclear Weapons and stress the need for concrete progress in this field, especially through an overall reduction in the global stockpile of nuclear weapons.

2. The European Union and its member States play an active part in developing well-elaborated, certified and robust technical procedures and technologies in order to ensure that "the principles of irreversibility, verifiability and transparency in relation to the implementation of their treaty obligations" under article VI of the Non-Proliferation Treaty are applied.

3. While verification is not an aim in itself, further development of multilateral nuclear verification capabilities would assist in the achievement and maintenance of a world without nuclear weapons. Therefore, the European Union and its member States consider it important to pursue and intensify efforts, including in cooperation with international organizations and civil society, to address verification challenges with respect to safety, security and non-proliferation requirements. Furthermore, the European Union and its member States stress the importance of the active and equal participation and leadership of women and their full involvement in all efforts for the maintenance and promotion of peace and security.

4. The European Union and its member States supported General Assembly resolution 71/67 on nuclear disarmament verification, the main sponsor of which was Norway, and welcomed the establishment of a group of governmental experts to consider the role of verification in advancing nuclear disarmament, whose meetings will be held in 2018 and 2019.

5. Coordinated technical discussions and work are an important element of treaty negotiation and treaty implementation. Technical research and development on disarmament verification capabilities will be important for the negotiation of

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disarmament agreements, whereas technical activities can enhance the implementation of disarmament activities.

6. Measures on nuclear disarmament would be strongly supported by the successful negotiation in the Conference on Disarmament of a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices (fissile material cut-off treaty).[1] In that context, participants in the 2017 informal consultative meeting on the fissile material cut-off treaty and, in particular, the first session of the high-level fissile material cut-off treaty expert preparatory group, devoted a considerable amount of time to discussing issues related to verification. The potential for synergies between the preparatory group process and the 2018 meeting of the group of governmental experts to consider the role of verification in advancing nuclear disarmament was also mentioned.

Introduction

7. Under article VI of the Non-Proliferation Treaty, all parties to the Treaty, both non-nuclear-weapon States and nuclear-weapon States, committed themselves to pursuing effective measures relating to the cessation of the nuclear arms race and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control. The establishment of effective verification measures will be important in fulfilling this goal.

8. The European Union and its member States remain committed to the Non-Proliferation Treaty as the cornerstone of the global nuclear non-proliferation regime, the essential foundation for the pursuit of nuclear disarmament in accordance with its article VI and an important element in the future development of nuclear energy applications for peaceful purposes.

9. In 2010, the eighth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons adopted conclusions and recommendations for follow-on actions, which include 64 actions. Action 19 of the 2010 action plan stated that "all States agree on the importance of supporting cooperation among Governments, the United Nations, other international and regional organizations and civil society aimed at increasing confidence, improving transparency and developing efficient verification capabilities related to nuclear disarmament".

10. The European Union and its member States see the urgency of identifying the challenges associated with verification and of providing for the relevant technical means. Verification capabilities should be developed now to ensure their availability for disarmament. There is a broad continuum of processes, techniques and technical methods that can be elaborated and developed and are important for building confidence.

11. As the Non-Proliferation Treaty demands "international control", it is important for non-nuclear-weapon States to play a more substantive and supportive role in most verification tasks. Concrete steps towards enabling verification of the disarmament process could contribute to the implementation of article VI of the Treaty.

Effective verification — key to nuclear disarmament

12. Over the past decades, several important efforts have attempted to address technical, legal and financial aspects of nuclear disarmament verification, proving the importance of joint international efforts on this complex issue. There are already a

[1] The position of the European Union on a fissile material cut-off treaty has been elaborated in working paper NPT/CONF.2020/PC.II/WP.7.

number of verification technologies linked to ensuring non-proliferation and safeguarding fissile materials.

13. The European Union and its member States support the view that strict verification standards are important for building confidence in nuclear disarmament. While transparency, irreversibility and verifiability remain at the core of any disarmament regime, the protection of sensitive and proliferative information, managed access, completeness and correctness of host declarations and safety and security are all essential issues. The right balance must thus be achieved.

14. While 100 per cent confidence is not achievable in any regime, trust and confidence can be increased by increasing awareness of technical challenges and proliferation concerns and through cooperation, education, openness and outreach. Scientific collaboration and technology developments for a sound and trusted verification approach can show the way forward and help to advance future nuclear negotiations.

15. Research and development to establish verification methods and technologies for the Comprehensive Nuclear-Test-Ban Treaty has a long tradition and has had a significant impact on the negotiation and adoption of that Treaty. The need to develop a scientific basis for monitoring nuclear testing in all environments was explicitly recognized following the first Treaty negotiations, in 1958. This marked the start of programmes of basic and applied research that have continued to this day. Within the framework of other arms control treaties, such as the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction and the Treaty on Conventional Armed Forces in Europe, sophisticated inspection procedures, such as "on-site inspections", have been developed and used.

16. The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization and its Provisional Technical Secretariat promote the development and constant maintenance of technologies to verify the non-existence of nuclear testing. Since the establishment of the Preparatory Commission in 1996, the Provisional Technical Secretariat has been tasked with establishing a verification regime. The scientific and engineering communities have continued to contribute to the further development and implementation of the International Monitoring System, the International Data Centre and procedures and techniques for on-site inspections.

17. This fruitful collaboration is most visible at the biennial Science and Technology conference, which taps into the experience and knowledge of experts from over 100 countries to further Comprehensive Nuclear-Test-Ban Treaty verification. These conferences also play an important role in raising awareness of the unique verification system of the Comprehensive Nuclear-Test-Ban Treaty Organization and its numerous civil and scientific applications.

18. During the 2010 Review Conference, all nuclear-weapon States committed themselves to accelerating concrete progress on the steps leading to nuclear disarmament, including moving towards an overall reduction in the global stockpile of all types of nuclear weapons and ratification of the Comprehensive Nuclear-Test-Ban Treaty. The European Union and its member States see the entry into force and universalization of the Treaty and the verification capabilities of the International Monitoring System as of crucial importance to nuclear disarmament and non-proliferation. Promoting universalization and the early entry into force of the Treaty is a top priority for the European Union and its member States.

19. The European Union and its member States consider the scientific programme for nuclear verification of the International Atomic Energy Agency (IAEA), referred to as the IAEA Member States Support Programme, aimed at improving the

implementation of safeguards, as an important pillar in enhancing verification methods and techniques for safeguards purposes and, from a broader view, for non-proliferation regimes in general.

20. The Trilateral Initiative of IAEA, the United States of America and the Russian Federation (1996–2002) tackled challenges of the international verification of weapon-origin fissile material with classified characteristics without revealing sensitive nuclear weapon information. Technical accomplishments included work towards technical specifications and equipment design for an attribute verification system, the development of a special containment and surveillance system to maintain the continuity of knowledge, and the development of approaches for the authentication of verification equipment. Significant achievements were also made in the development of the legal framework, including the drafting of a model verification agreement and model subsidiary arrangements, and consideration was given to the financing of verification activities.

Engagement in activities by the European Union and its member States

21. The European Union and its member States have a high degree of expertise and wide experience in the fields of nuclear safety and security, safeguards and non-proliferation in both nuclear-weapon States and non-nuclear-weapon States.

22. In addition to their interest and their principled support, voiced on many occasions and displayed at such important negotiations as the E3/EU+3 talks with the Islamic Republic of Iran, the European Union and its member States have significant and unique experience that can be instrumental to effectively advancing the disarmament verification agenda. Concrete steps have been taken by specific nuclear-weapon States, such as the reduction of stockpiles of nuclear weapons and the irreversible dismantlement of production facilities for nuclear weapon fissile material. Specifically, this includes the dismantlement expertise of France and the United Kingdom of Great Britain and Northern Ireland, as well as the significant research and development efforts by the European Commission's Joint Research Centre with regard to nuclear safety, security and non-proliferation. Significant technical expertise also exists among the non-nuclear-weapon States of the European Union, linked to their nuclear energy programmes.

23. The European Atomic Energy Community safeguards system, established by the Treaty creating the European Atomic Energy Community in 1957, is a set of controls and verification activities covering all civil nuclear installations throughout the European Union. Nuclear facilities in the military domain or related to national security are excluded from the Treaty. The Community has similar rights of access to all civilian nuclear facilities in both the non-nuclear-weapon States and the nuclear-weapon States of the European Union. The Community runs a programme for nuclear research and training under the European framework research programmes. One of the objectives of the current Community research and training programme (2014–2018) is to improve nuclear security, including nuclear safeguards, non-proliferation, combating illicit trafficking, and nuclear forensics.

24. At the European Union level, in addition to the European Atomic Energy Community safeguards inspectorate, the Joint Research Centre has a wealth of expertise. Based on substantial experience in the field of nuclear safeguards, the European Union supported the technical work under the Trilateral Initiative through a workshop organized by the Joint Research Centre in Ispra, Italy, from 13 to 19 December 2001. The objective of the workshop was to demonstrate in situ verification capabilities, including "information barriers" to ensure the protection of classified parameters, advanced surveillance devices and identification and authentication procedures.

25. As only a combination of both perspectives can open up avenues for irreversible multilateral nuclear disarmament, nuclear-weapon States and non-nuclear-weapon States need to work together. The European Safeguards Research and Development Association has added special sessions on disarmament verification to its biennial symposiums, although the Association generally focuses on improving international safeguards. Arms control is also now a topic in some of the eight Association working groups.

26. Successful cooperation between a nuclear-weapon State and a non-nuclear-weapon State would require sufficient time for a build-up of trust and common ground. Therefore, the European Union appreciates the work undertaken by the United Kingdom-Norway Initiative, which, through collaboration between nuclear-weapon States and non-nuclear-weapon States, addresses technical and procedural challenges of verifying possible future nuclear disarmament and arms control agreements. Using scenarios, the Initiative identified challenges for the verification of nuclear warhead dismantlement. The ongoing cooperation addressed areas such as "managed access", "information barriers" and "confidence in the verification process" and successfully demonstrated how States can cooperate in this important and politically sensitive area.

27. Since 2015, the United Kingdom and Sweden have been working together with the United States and Norway within the framework of the Quad Nuclear Verification Partnership. It is a multi-year arms control simulation initiative that builds on experience from the United Kingdom-Norway Initiative and previous United Kingdom-United States verification and arms control exercises.

28. In spite of the achievements, a considerable amount of work is still needed to advance technologies and procedures for nuclear disarmament verification. The European Union supports the creation of broader partnerships and cooperative verification arrangements and, together with some of its member States, has participated in the work of the International Partnership for Nuclear Disarmament Verification since its inauguration in 2015. The International Partnership enables active collaboration among experts from 22 States with and without nuclear weapons to develop practical methods that could contribute to the verification of the irreversible dismantlement of nuclear weapons. It has obtained some excellent results within its first phase (2015–2017), which yielded the key judgment that, "while tough challenges remain, potentially applicable technologies, information barriers, and inspection procedures provide a path forward that should make possible multilaterally monitored nuclear warhead dismantlement while successfully managing safety, security, non-proliferation, and classification concerns in a future nuclear disarmament agreement". The European Union will continue to actively support the work in the second phase (2017–2019), particularly on further exploration of verification technologies, demonstrations and practical exercises.

Summing up

29. The European Union hosts much experience and research activity and many institutions with related expertise in the field of nuclear verification. The European Union and its member States urge nuclear-weapon States and non-nuclear-weapon States to use the ongoing international initiatives to advance the development of capacities for disarmament verification, building on past achievements.

30. Robust and effective verification is an important part of maintaining disarmament progress on the way to a world without nuclear weapons. Regardless of the specific provisions of future regimes, the disarmament and verification process can be discussed from a more technical perspective even today.

31. The European Union and its member States welcome the establishment of the group of governmental experts to consider the role of verification in advancing nuclear disarmament and look forward to the outcome of its work. The European Union is prepared to provide appropriate support for the development and application of new technologies or concepts and contributes to the discussion at the International Partnership for Nuclear Disarmament Verification accordingly. In the second phase, the European Union and several of its member States, together with other partners in the International Partnership, have continued to examine various aspects of verification with an expanded focus and scope beyond dismantlement. The European Union considers it important that the International Partnership and the group of governmental experts seek to complement each other's work.